

## **CLASS 386, TELEVISION SIGNAL PROCESSING FOR DYNAMIC RECORDING OR REPRODUCING**

### **SECTION I - CLASS DEFINITION**

This class deals with apparatus and corresponding processes for processing a sequence of images, in which the light variation composing the images may change with time (e.g., natural "live" scenes) for dynamic recording or reproducing of the sequence of images.

The processing involves the following steps: (a) Receiving a sequence of images from a local (e.g., camera, etc.) or remote source (e.g. broadcasting station, satellite, cable, etc.); (b) Converting the received sequence of images into a form suitable for dynamic storage, which form may or may not be reproduced later; or (c) Converting retrieved information from a dynamic storage medium into a sequence of images.

This class also deals with apparatus or processes for recording a single still or frame video using a dynamic recording device having relative movement between a transducer and a medium.

### **SUBCOMBINATION OF TELEVISION SIGNAL PROCESSING FOR DYNAMIC RECORDING OR REPRODUCING:**

- (1) This class includes apparatus and corresponding processes for making copies or editing of a recorded sequence of images falling within the above definition.
- (2) This class includes dynamic storage medium having magnetic or optical properties.
- (3) This class includes both black and white or color sequences of images.

### **SECTION II - REFERENCES TO OTHER CLASSES**

#### **SEE OR SEARCH CLASS:**

- 29, Metal Working, subclasses 603.01+ for method of making magnetic transducers.
- 84, Music, subclasses 601+ for recording or reproducing means in combination with musical instruments.
- 106, Composition: Coating or Plastic, for plastic composition usable in magnetic record carriers.
- 118, Coating Apparatus, for apparatus for making coated magnetic record carriers.
- 148, Metal Treatment, subclasses 300+ for magnetic stock material.

- 178, Telegraphy, for recording or reproducing means combined with code transmitters or receivers.
- 200, Electricity: Circuit Makers or Breakers, for switching devices usable in magnetic recorders or reproducers.
- 226, Advancing Material of Indeterminate Length, for means for advancing a record carrier past a transducer.
- 235, Registers, subclasses 419+ for record controlled electromechanic calculators, and subclass 493 for magnetic records used in register.
- 242, Winding, Tensioning, or Guiding, subclasses 324+ for magnetic tape or film.
- 252, Composition, subclasses 62.51+ for magnetic compositions.
- 312, Supports: Cabinet Structure, subclass 7.2 for television cabinets.
- 318, Electricity: Motive Power Systems, subclasses 560+ for positional servo systems, subclasses 567+ for program or pattern controlled systems, and subclasses 41+ and 85 for synchronization circuitry.
- 324, Electricity: Measuring and Testing, subclass 112 for voltage or current storage means including magnetic storage and subclasses 244+ for magnetic field testing means usable in reproducing magnetic records.
- 329, Demodulators, for demodulators usable in magnetic reproduction.
- 330, Amplifiers, for amplifiers usable in magnetic recording or reproducing; see especially subclass 149 for noise compensation.
- 331, Oscillators, subclasses 20+ and 172 for television-type oscillator synchronization.
- 332, Modulators, for modulators usable in magnetic recording.
- 333, Wave Transmission Lines and Networks, subclass 28 for equalizers usable in magnetic recording or reproducing.
- 336, Inductor Devices, for core and coil structures similar to those of magnetic recording or reproducing transducers.
- 341, Coded Data Generation or Conversion, for code converters usable in or using dynamic storage techniques.
- 342, Communications: Directive Radio Wave Systems and Devices (e.g., Radar, Radio Navigation), for radar systems.
- 345, Computer Graphics Processing and Selective Visual Display Systems, for systems in which display elements are selectively controlled in accordance with a received image data signal. The image data includes character or graphical

- information, and may include, for example, information data from a peripheral input device, from the reception of a television signal, from the recognition of image data, or from the generation or creation of image data by a computer. (Similar Subject Matter In Other Classes); subclasses 418 through 475 for computer graphics processing.
- 346, Recorders, for recorders usually of the graphic type and record carriers therefor.
- 347, Incremental Printing of Symbolic Information, appropriate subclasses.
- 348, Television, for systems that generate, process, transmit, or transiently display a sequence of images, either locally or remotely, in which the local light variations composing the images may change with time (e.g., natural "live" scenes) by methods involving the steps of scanning an object or scene, and transiently displaying the object or scene by converting an electrical signal representative of the object (i.e., video signal) into a visible image of the object. (Similar Subject Matter In Other Classes)
- 348, Television, for apparatus or methods involving the steps for generating, processing, transmitting, or transiently displaying television signals.
- 352, Optics: Motion Pictures, for motion picture apparatus in combination with recorders or reproducers.
- 353, Optics: Image Projectors, for projectors combined with recorders or reproducers.
- 355, Photocopying, for systems in which an original picture is copied photographically. The electric signal representative of a characteristic of the original picture is derived and employed to modify the operation of the systems. (Similar Subject Matter In Other Classes)
- 355, Photocopying, subclass 31 and 98 for copying optical sound records.
- 358, Facsimile and Static Presentation Processing, for systems that transmit and reproduce arbitrarily composed pictures in which the local light variations composing each of the pictures are not subject to variation with time, e.g., documents (both written and printed), maps, charts, photographs, other than motion picture film. (Similar Subject Matter In Other Classes); subclasses 1.1 through 1.18 for static presentation processing (e.g., processing data for printer, etc.) and subclasses 296-304 for recording means combined with facsimile.
- 359, Optics: Systems (Including Communication) and Elements, subclasses 281+ and 484 for magneto-optical polarization devices usable in magnetic signal reproduction.
- 360, Dynamic Magnetic Information Storage or Retrieval, for systems in which the storage or retrieval of information is caused by relative movement between a magnetic record carrier and a transducer. (Similar Subject Matter In Other Classes)
- 360, Dynamic Magnetic Information Storage or Retrieval, appropriate subclasses.
- 361, Electricity: Electrical Systems and Devices, subclasses 143+, 159, and 267 for demagnetizing means for records and heads when not in combination with recorders or reproducers.
- 365, Static Information Storage and Retrieval, appropriate subclasses for magnetic, electric, or optical static storage/retrieval of information.
- 369, Dynamic Information Storage or Retrieval, for systems in which arbitrarily variable information (i.e., a time varying physical quantity representing desired intelligence, often an audible sound or an electrical signal), is retained in a storage medium by variation of a physical characteristic thereof. The information is stored or retrieved by causing or sensing a variation of a physical characteristic of a storage medium by a transducer having relative motion along a continuous path. (Similar Subject Matter In Other Classes)
- 369, Dynamic Information Storage or Retrieval, appropriate subclasses.
- 370, Multiplex Communications, subclasses 8 through 11 for pulse modulation, subclasses 53+ for multiplex switching, subclasses 69.1+ for frequency division multiplexing, and subclasses 77+ for time division multiplexing.
- 379, Telephonic Communications, subclass 41, 51, and 67.1+ for recorders or reproducers combined with telephones.
- 380, Cryptography, especially subclasses 200 through 242 for cryptographic video equipment and techniques.
- 381, Electrical Audio Signal Processing Systems and Devices, appropriate subclasses for electrical audio signal handling in general.
- 382, Image Analysis, for systems in which legible alphanumeric or like character forms are analyzed for pattern recognition, systems for transforming an image for the purpose of enhancing its visual quality prior to recognition, or for locating and registering the image relative to a

- sensor or stored prototype, or for reducing the amount of image data by discarding irrelevant data, or for measuring significant characteristics of the image. (Similar Subject Matter In Other Classes)
- 382, Image Analysis, appropriate subclasses for pattern recognition.
- 396, Photography, various subclasses for pictorial information recording devices.
- 400, Typewriting Machines, subclasses 61+ for typewriting machines including magnetic storage means for storing retrievable information.
- 420, Alloys or Metallic Compositions, appropriate subclasses for alloys which are claimed broadly as "magnetic," "magnetized," or "permanent magnet" or alloys defined only in terms of their composition which are inherently magnetic.
- 427, Coating Processes, methods of making and coating magnetic record carriers.
- 428, Stock Material or Miscellaneous Articles, articles usable as magnetic record carriers.
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation imagery chemistry process, composition, or product used as a storage medium.
- 455, Telecommunications, various subclasses for transmitters and receivers.
- 700, Data Processing: Generic Control Systems or Specific Applications, subclasses 1 through 89 for generic data processing control systems; and subclasses 90-306 for particular application of data processing systems or calculating computers.
- 702, Data Processing: Measuring, Calibrating, or Testing, appropriate subclasses.
- 706, Data Processing: Artificial Intelligence, appropriate subclasses for artificial intelligence.
- 708, Electrical Computers: Arithmetic Processing and Calculating, subclasses 1+ for hybrid computers; subclasses 100+ for digital calculating computers; and subclasses 800+ for analog computers.
- 709, Electrical Computers and Digital Data Processing Systems: Multiple Computer or Process Coordinating, appropriate subclasses for data transferring among multiple computer and digital processing systems.

1

# **PROCESSING OF COLOR TELEVISION SIGNAL FOR DYNAMIC RECORDING OR REPRODUCING:**

This subclass is indented under the class definition. Subject matter comprising apparatus having specific utility in treating a television signal including a chrominance component for dynamic storage or retrieval of the signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

46+, for processing of black and white television signal for dynamic recording or reproducing.

SEE OR SEARCH CLASS:

348, Television, appropriate subclasses for processing a television signal.

360, Dynamic Magnetic Information Storage or Retrieval, appropriate subclasses for dynamic magnetic recording or reproducing in general.

365, Static Information Storage and Retrieval, appropriate subclasses.

369, Dynamic Information Storage or Retrieval, appropriate subclasses for dynamic recording or reproducing in general.

2

# **Drop-out correction:**

This subclass is indented under subclass 1. Subject matter comprising means for repairing a detected unsatisfactory signal condition (e.g., loss of signal or discontinuities in a signal) by substitution or regeneration.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47+, for drop-out correction of a black and white television signal.

SEE OR SEARCH CLASS:

348, Television, subclass 617 for drop-out correction of a color television signal.

714, Error Detection/Correction and Fault Detection/Recovery, subclass 818 for detection of missing bit or dropout of a bit within a data character.

## SUBCLASSES

**3 Including switching means and delay means:**

This subclass is indented under subclass 2. Subject matter wherein means for repairing includes (a) an interrupter activated during the occurrence of the detected unsatisfactory signal condition and (b) a device which retards the television signal.

**4 Editing:**

This subclass is indented under subclass 1. Subject matter including means for deleting from, adding to, or rearranging portions of a previously recorded color television signal.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

52+, for editing of a black and white television signal.

SEE OR SEARCH CLASS:

360, Dynamic Magnetic Information Storage or Retrieval, subclass 13 for dynamic magnetic record editing in general.

369, Dynamic Information Storage or Retrieval, subclass 83 for editing of dynamic record in general.

**5 Line, field, or frame skipping:**

This subclass is indented under subclass 1. Subject matter including means for deleting at least one line, field, or frame for every H lines, fields, or frames (H is an integer greater than two) of the color television signal at the time of recording.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

110, for line, field, or frame skipping recording of a black and white television signal.

**6 Fast reproducing:**

This subclass is indented under subclass 1. Subject matter wherein a duration (i.e., a time interval by which a certain number of television frames is recorded or reproduced) of the color television signal at the time of reproducing is less than that at the time of recording.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

68+, for fast, slow, or stop reproducing of a black and white television signal.

SEE OR SEARCH CLASS:

381, Electrical Audio Signal Processing Systems and Devices, subclasses 29 through 35 for bandwidth or time compression or expansion.

**7 Slow reproducing:**

This subclass is indented under subclass 1. Subject matter wherein a duration (i.e., a time interval by which a certain number of television frames is recorded or reproduced) of the color television signal at the time of reproducing is greater than that at the time of recording.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

68+, for fast, slow, or stop reproducing of a black and white television signal.

SEE OR SEARCH CLASS:

381, Electrical Audio Signal Processing Systems and Devices, subclasses 29 through 35 for bandwidth or time compression or expansion.

**8 Still reproducing:**

This subclass is indented under subclass 1. Subject matter in which one frame of the color television signal is repeatedly reproduced for a predetermined period of time.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

68+, for fast, slow, or stop reproducing of a black and white television signal.

SEE OR SEARCH CLASS:

381, Electrical Audio Signal Processing Systems and Devices, subclasses 29 through 35 for bandwidth or time compression or expansion.

**9 Signal amplitude level control:**

This subclass is indented under subclass 1. Subject matter comprising means for controlling the instantaneous amplitude level or the envelope level of the color television signal during recording or reproducing.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 93, for amplitude level control of black and white television signal during recording or reproducing.
- SEE OR SEARCH CLASS:  
 330, Amplifiers, appropriate subclasses for amplifiers, per se.  
 348, Television, subclass 613 for signal amplitude level control of a nonrecorded television signal.
- 10 Including color burst or reference signal:**  
 This subclass is indented under subclass 9. Subject matter where the amplitude of a color burst component signal is controlled, or a reference signal is monitored for controlling the amplitude of the color television signal.
- (1) Note. The reference signal may include, for example, a pilot or a color burst signal.
- 11 Color killer:**  
 This subclass is indented under subclass 10. Subject matter comprising means for suppressing or eliminating the amplitude of a chrominance component signal.
- SEE OR SEARCH CLASS:  
 348, Television, subclasses 643+ for television color killer image signal processing.
- 12 Synchronization signal modification:**  
 This subclass is indented under subclass 1. Subject matter comprising means for generating a signal which is added to or substituted for a synchronizing component of the color television signal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 71, for synchronization signal modification of a special reproduced black and white television signal.  
 84, for modification of a synchronization component in a black and white television recording or reproducing apparatus.
- SEE OR SEARCH CLASS:  
 348, Television, subclass 502 for extracting, processing or reinserting the synchronization component of a color video signal.
- 13 Time (e.g., phase or frequency) correction:**  
 This subclass is indented under subclass 1. Subject matter for correction of timing error introduced during recording or reproducing of the color television signal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 85+, for time (e.g., phase or frequency) correction of a black and white television signal.
- SEE OR SEARCH CLASS:  
 348, Television, subclasses 498+ for time correction of a nonrecorded color television signal.  
 360, Dynamic Magnetic Information Storage and Retrieval, subclasses 70 through 78.15 for time control in general for dynamic magnetic recording.  
 369, Dynamic Information Storage or Retrieval, subclasses 47.1 through 47.55 and 239+ for time control in general dynamic recording.
- 14 By controlling relative transducer/record medium speed:**  
 This subclass is indented under subclass 13. Subject matter where the time correction is effected by regulating a speed of a transducer in relation to a record medium.
- 15 Disc:**  
 This subclass is indented under subclass 14. Subject matter where the record medium has a thin circular shape.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 45, for generic recording or reproducing of a color television signal using disc.  
 70, for track accessing in a special reproducer having disc.  
 82, for a special reproducing apparatus having disc.

- 105, for recording of a digital audio signal onto disc.
- 106, for recording of an audio signal onto disc.
- 125+, for black and white television signal recording or reproducing apparatus having disc.
- 16 Using recorded reference (e.g., pilot signal):**  
This subclass is indented under subclass 13. Subject matter where the time correction is effected by using a signal recorded on the record medium for that purpose.
- (1) Note. The recorded signal is not a standard component (e.g., luminance, chrominance, synchronization signals, color burst) of the television signal.
- 17 Phase or frequency matching of color television signal component to an external reference:**  
This subclass is indented under subclass 13. Subject matter where the time correction is effected by comparing phase or frequency of a recorded color television component with that of a specified inputted signal from a remotely located source.
- 18 Using variable delay:**  
This subclass is indented under subclass 17. Subject matter having a delay means, the delay time of which is alterable.
- 19 Color burst:**  
This subclass is indented under subclass 17. Subject matter where the recorded color television component is a reference burst signal which serves as a color synchronizing signal to establish a frequency or phase reference for the chrominance signal.
- 20 Digital technique:**  
This subclass is indented under subclass 13. Subject matter wherein the color television signal is converted to or from a signal composed of a series or pattern of identical pulse bits characterized solely by their presence or absence.
- 21 Recorder or reproducer fault condition compensation:**  
This subclass is indented under subclass 1. Subject matter including means for correcting error introduced during recording or reproducing of the color television signal.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
113+, for recorder or reproducer fault condition compensation of a black and white television signal.
- SEE OR SEARCH CLASS:  
348, Television, subclasses 607+ for noise or undesired signal reduction.
- 22 Crosstalk:**  
This subclass is indented under subclass 21. Subject matter for the reduction or elimination of noise introduced by interference between at least two reproduced channels or two reproduced tracks.
- (1) Note. This subclass includes reduction of crosstalk between different tracks or channels, or cross talk between audio and video portions of the color television signal.
- SEE OR SEARCH CLASS:  
348, Television, subclasses 609+ for reduction of crosstalk in a television system.  
370, Multiplexing Communications, subclass 6 for reduction of crosstalk in multiplexing.
- 23 Heads having different azimuth angles:**  
This subclass is indented under subclass 22. Subject matter wherein the reduction or elimination of crosstalk is effected by an arrangement of recording or reproducing heads in such a manner that angular displacements formed between head gaps and their respective recorded tracks are dissimilar.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
74, for a fast, slow, or stop reproducing apparatus using heads having different azimuth angles.

**24 Different phase between adjacent lines or fields of color television signal:**

This subclass is indented under subclass 22. Subject matter wherein the reduction or elimination of crosstalk is effected by continuously changing a phase of a carrier frequency signal which is used to modulate at least a color television component.

**25 Comb filtering:**

This subclass is indented under subclass 21. Subject matter comprising a multiple-series bandpass filter means for passing only frequencies within a number of narrow bands.

**26 Frequency modulation for recording on the same track:**

This subclass is indented under subclass 1. Subject matter wherein components of the color television signal (e.g., luminance or chrominance), which occupy different frequency bands, are processed using specific frequency modulator or demodulator circuitry and are added for recording purpose.

- (1) Note. The specific frequency modulator or demodulator circuitry includes, for example, frequency mixer, converter, or shifter.

**SEE OR SEARCH CLASS:**

- 332, Modulators, subclasses 117+ and 144+ for frequency or phase modulator, per se.
- 340, Communications: Electrical, subclasses 825.7 and 825.71+ for phase and frequency responsive selective systems and subclasses 870.18+ for frequency or phase modulated telemetry systems.
- 348, Television, subclass 724 for modulating television signal.
- 370, Multiplex Communications, subclass 12 for phase modulation multiplex communication.
- 375, Pulse or Digital Communications, subclasses 271+, 302+, and 322+ for frequency or phase modulated carrier wave pulse or digital communications.

**27 Compressing when recording or decompressing when reproducing:**

This subclass is indented under subclass 26. Subject matter wherein a parameter (bandwidth, data, time etc.) of at least one of the components of the color television signal is reduced at the time of writing-in, or increased at the time of reading-out while preserving its information content.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

- 33, for compressing or decompressing in a generic color television signal processing apparatus for recording or reproducing.
- 109+, for compressing or decompressing of black and white television signal.

**SEE OR SEARCH CLASS:**

- 341, Coded Data Generation or Conversion, appropriate subclasses for code converters which may include bandwidth reduction.
- 348, Television, subclasses 384.1 through 440.1 for bandwidth reduction in an analog television system.
- 370, Multiplex Communications, subclass 7 for multiplex systems with amplitude compression of incoming signal and corresponding expansion, subclass 109 for time compression or expansion in time division multiplexing, and subclass 118 for bandwidth conservation techniques.
- 375, Pulse or Digital Communications, subclasses 240.01 through 240.29 for digital television bandwidth compression system.
- 381, Electrical Audio Signal Processing Systems and Devices, subclasses 29 through 35 for bandwidth or time compression or expansion.
- 382, Image Analysis, subclasses 232+ for image compression or coding.

**28 Phase shifting:**

This subclass is indented under subclass 26. Subject matter wherein the phase of a carrier frequency signal used to modulate at least one of the color television components is continuously changed.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
41, for phase control or phase modulation of carrier signal.
- 29 Having another signal**  
This subclass is indented under subclass 26. Subject matter wherein at least one auxiliary signal (e.g., audio signal, pilot signal, graphic or picture information data, etc.) in addition to the frequency modulated color television signal is processed and recorded.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
39, for generic recording or reproducing of a color television signal in combination with an audio signal.  
96+, for generic recording or reproducing of a black and white television signal in combination with an audio signal.
- 30 Using diffraction technique or strip filter:**  
This subclass is indented under subclass 1. Subject matter including the use of a diffraction grating or a parallel or nonparallel line strip color filter for encoding color information onto a noncolor record receiver.
- SEE OR SEARCH CLASS:  
348, Television, subclasses 273+, 285+, and 289+ for line strip color filters in combination with television cameras.  
352, Optics: Motion Pictures, subclasses 66+ for making color motion pictures using monochromatic film.  
359, Optics: Systems (Including Communication) and Elements, subclasses 558+ for filters of the type used in devices in this subclass.  
396, Photography, subclasses 305+ for color photography in general using monochromatic film.
- 31 Separately processed primary color signals:**  
This subclass is indented under subclass 1. Subject matter wherein primary color signals (i.e., red, blue, and yellow) are manipulated or treated as distinct signals before or after recording.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
44, for recording or reproducing apparatus in which luminance and chrominance are processed separately.
- 32 Separately recorded:**  
This subclass is indented under subclass 31. Subject matter in which the processed primary color signals are recorded on separate tracks of a record receiver.
- 33 Compressing when recording or decompressing when reproducing:**  
This subclass is indented under subclass 1. Subject matter wherein a parameter (bandwidth, data, time etc.) of a component of the color television signal is reduced at the time of writing-in, or increased at the time of reading-out while preserving its information content.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
27, for compressing or decompressing of a frequency modulated color television signal.  
109+, for compressing or decompressing of a black and white television signal.
- SEE OR SEARCH CLASS:  
341, Coded Data Generation or Conversion, appropriate subclasses for code converters which may include bandwidth reduction.  
348, Television, subclasses 384.1 through 440.1 for bandwidth reduction in an analog television system.  
370, Multiplex Communications, subclass 7 for multiplex systems with amplitude compression of incoming signal and corresponding expansion, subclass 109 for time compression or expansion in time division multiplexing, and subclass 118 for bandwidth conservation techniques.  
375, Pulse or Digital Communications, subclasses 240.01 through 240.29 for digital television bandwidth compression system.  
381, Electrical Audio Signal Processing Systems and Devices, subclasses 29 through 35 for bandwidth or time compression or expansion.



- 382, Image Analysis, subclasses 232+ for image compression or coding.
- 34 Digitizing, processing and converting of analog color television signal:**  
This subclass is indented under subclass 1. Subject matter comprising (1) means for converting an electrical analog color television signal into digital signal, (2) means for processing the converted digital signal, and (3) means for converting the processed digital signal back to an analog signal.
- SEE OR SEARCH CLASS:  
360, Dynamic Magnetic Information Storage or Retrieval, subclass 32 for similar subject matter in dynamic magnetic information storage or retrieval and subclasses 39+ for general processing of a digital signal in dynamic magnetic information storage or retrieval.
- 35 Selective recording or reproducing:**  
This subclass is indented under subclass 1. Subject matter comprising means for specifying any of a plurality of color television signals, in different formats, to be recorded or reproduced.
- (1) Note. The different formats include, for example, NTSC (National Television System Committee), PAL (Phase Alternation Line), etc.
- 36 Channel splitting:**  
This subclass is indented under subclass 1. Subject matter comprising means for separating the color television signal into signals inputted into two or more paths before recording.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
122, for channel splitting of a black and white television signal.
- SEE OR SEARCH CLASS:  
360, Dynamic Magnetic Information Storage or Retrieval, subclasses 22+ for splitting an information signal for recording on plural distinct tracks or reproducing such signal.
- 37 High definition television recording or reproducing:**  
This subclass is indented under subclass 1. Subject matter comprising means for recording or reproducing a high resolution or wide band color television signal having more scanning lines than that of a standard NTSC television signal.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
123, for recording or reproducing of a high definition black and white television signal.
- SEE OR SEARCH CLASS:  
348, Television, subclasses 426+ for bandwidth reduction of high definition television signal.
- 38 Including television camera:**  
This subclass is indented under subclass 1. Subject matter comprising a television camera having optical-electrical converting means for converting an optical image signal, obtained in a selected recording mode (e.g., still or motion), into an electrical image signal representing the color television signal.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
107, for television camera combined with a processing apparatus to record or reproduce a black and white television signal together with an audio signal.  
117+, for television camera combined with a processing apparatus to record or reproduce a black and white television signal.
- SEE OR SEARCH CLASS:  
348, Television, subclasses 207+ for television signal processing including camera means for scanning image of the object or scene.  
358, Facsimile and Static Presentation Processing, subclass 479 for video camera scanning document or other static image.  
396, Photography, subclasses 429+ for photographic camera combined with other devices or structures having independent utility or purpose.

**39 Including audio signal:**

This subclass is indented under subclass 1. Subject matter wherein the color television signal and associated electrical signal containing frequency in the audible range are recorded onto a recording medium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 29, for recording of a frequency modulated television signal with another signal such as an audio signal.
- 96+, for recording a black and white television signal with audio.

SEE OR SEARCH CLASS:

- 348, Television, subclasses 462 and 480+ for television signal including additional information such as sound.
- 381, Electrical Audio Signal Processing Systems and Devices, appropriate subclasses for processing of an audio signal.

**40 Digital recording or reproducing:**

This subclass is indented under subclass 1. Subject matter wherein the color television signal is recorded or reproduced in a form of a signal composed of a series or pattern of identical pulse bits characterized solely by their presence or absence.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124, for digital recording of a black and white television signal.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, subclass 32 and 39+ for converting an analog signal to digital form for recording, reproducing, and reconvertng, and for general processing of a digital signal, respectively.

**41 Phase control of carrier signal:**

This subclass is indented under subclass 1. Subject matter wherein phase of a signal used to modulate at least a component of the color television is controlled.

- (1) Note. This subclass includes phase modulation of a carrier signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 28, for phase shifting of a modulated color television signal.

**42 Using light or beam:**

This subclass is indented under subclass 1. Subject matter including means for recording the color television signal onto a dynamic photographic record medium (e.g., film), or for reproducing the signal therefrom.

- (1) Note. This subclass includes apparatus for recording video images on a film by scanning a light or beam across the film or by creating a hologram on the film.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 128+, for the use of light or beam to record black and white television signal.

SEE OR SEARCH CLASS:

- 346, Recorders, subclasses 107.1+ for optical recording of phenomenal information.
- 347, Incremental Printing of Symbolic Information, subclasses 224+ for radiation marking.
- 348, Television, subclasses 97+ for motion picture film scanning.
- 352, Optics: Motion Pictures, appropriate subclasses for photographic motion picture recording in general.
- 369, Dynamic Information Storage or Retrieval, subclasses 100+ for dynamic photographic information storage or retrieval in general.

**43 Color signal in nonpictorial form:**

This subclass is indented under subclass 42. Subject matter including means for recording the color television signal in a form of a modulated track which is visibly unintelligible, or for reproducing such a signal.

SEE OR SEARCH CLASS:

- 365, Static Information Storage and Retrieval, subclasses 106+ for radiant energy static storage/retrieval sys-

- tems and subclasses 120+ for information masking storage/retrieval systems.
- 44 Separately processed luminance and chrominance:**  
This subclass is indented under subclass 1. Subject matter wherein components of the television signal (e.g., luminance or chrominance) are manipulated or treated as distinct signals before or after recording.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
31+, for system in which primary color signals (red, blue, yellow) are processed separately.
- SEE OR SEARCH CLASS:  
348, Television, subclass 663 for specific circuitry to separate chrominance and luminance signals.
- 45 Using disc:**  
This subclass is indented under subclass 1. Subject matter wherein the color television signal is recorded onto a record medium having thin circular shape.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
15, for time correction of a color television signal by regulating a speed of a transducer in relation to a disc.  
70, for track accessing in a special reproducer having disc.  
82, for a special reproducing apparatus having disc.  
105, for recording of a digital audio signal onto disc.  
106, for recording of an audio signal onto disc.  
125, for black and white television signal recording or reproducing apparatus having disc.
- SEE OR SEARCH CLASS:  
360, Dynamic Magnetic Information Storage or Retrieval, subclasses 86, 97.01+, and 135 for film, disc, card scanning, or related subject matter.
- 46 PROCESSING OF TELEVISION SIGNAL FOR DYNAMIC RECORDING OR REPRODUCING:**  
This subclass is indented under the class definition. Subject matter comprising apparatus having specific utility for treating a television signal for dynamic storage or retrieval of the signal.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
1+, for processing of color television signal for dynamic recording or reproducing.
- SEE OR SEARCH CLASS:  
348, Television, appropriate subclasses for processing a television signal.  
360, Dynamic Magnetic Information Storage or Retrieval, appropriate subclasses for dynamic magnetic recording or reproducing in general.  
365, Static Information Storage and Retrieval, appropriate subclasses.  
369, Dynamic Information Storage or Retrieval, appropriate subclasses for dynamic recording or reproducing in general.
- 47 Drop-out correction:**  
This subclass is indented under subclass 46. Subject matter comprising means for repairing a detected unsatisfactory signal condition (e.g., loss of signal or discontinuities in a signal) by substitution or regeneration.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
2+, for drop-out correction of a color television signal.
- SEE OR SEARCH CLASS:  
348, Television, subclass 616 for drop-out compensator.  
714, Error Detection/Correction and Fault Detection/Recovery, subclass 818 for detection of missing bit or dropout of a bit within a data character.
- 48 For synchronization signal:**  
This subclass is indented under subclass 47. Subject matter wherein a television signal component composed of pulses at rates related to

- line and field frequencies for synchronizing scanning processes is detected and corrected.
- 49 Using static memory or delay means:**  
This subclass is indented under subclass 47. Subject matter comprising a storage means (e.g., static memory or delay means) for temporarily holding information related to the detected unsatisfactory signal condition.
- 50 Interpolation:**  
This subclass is indented under subclass 49. Subject matter comprising means for generating a compensated television signal by a mathematical process for estimating portions of the television signal.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
73, for interpolation of a fast, slow, or stop reproduced television signal.
- 51 Specific drop-out detection**  
This subclass is indented under subclass 46. Subject matter comprising details of circuitry for detecting an unsatisfactory signal condition.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
2+, for drop-out correction of color television signal.  
47+, for drop-out correction of black and white television signal.
- 52 Editing:**  
This subclass is indented under subclass 46. Subject matter comprising means for deleting from, adding to, or rearranging portions of a previously recorded television signal.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
4, for editing of a color television signal.
- SEE OR SEARCH CLASS:  
360, Dynamic Magnetic Information Storage or Retrieval, subclass 13 for dynamic magnetic record editing in general.  
369, Dynamic Information Storage or Retrieval, subclass 83 for editing of dynamic record in general.
- 53 Fading-in and fading-out:**  
This subclass is indented under subclass 52. Subject matter including means for gradually and simultaneously increasing and decreasing the amplitudes of two image or video signals of previously recorded television signals in a manner that the amplitude of one image signal is attenuated to zero while that of the other is increased to a maximum value.
- SEE OR SEARCH CLASS:  
348, Television, subclasses 578+ for special effects including fading.
- 54 Audio signal:**  
This subclass is indented under subclass 52. Subject matter wherein an electrical signal containing frequency in the audible range (15-20,000 hertz) is edited.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
39, for recording a color television signal together with an audio signal.  
75, for a fast, slow, or stop reproduced television signal including audio.  
96+, for recording of a black and white television signal together with an audio signal.
- 55 Editing decision list (EDL):**  
This subclass is indented under subclass 52. Subject matter wherein the previously recorded television signal is edited by means of a look-up table containing at least address data associated with edit commands.
- 56 Rewrite after read:**  
This subclass is indented under subclass 52. Subject matter including means for writing edited television signal in place of the previously recorded television signal reproduced from a recording medium by which the edited television signal is written onto.
- 57 Control track:**  
This subclass is indented under subclass 52. Subject matter including a pulse signal recorded in a separate track, distinguished from television track for carrying out editing of the previously recorded television signal.

**58 Phase comparison:**

This subclass is indented under subclass 57. Subject matter comprising a phase comparator means for generating a phase error signal by comparing phases of the signal recorded in the separate track with that of a reference signal.

**59 Counting control pulse:**

This subclass is indented under subclass 57. Subject matter including a counter for counting a predetermined number of pulses in the pulse signal, thereby controlling the editing.

**60 Numerical code:**

This subclass is indented under subclass 57. Subject matter wherein the pulse signal recorded in the separate track represents numbers.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

62, for editing using numerical code in a synchronization signal.

**61 Using synchronization signal:**

This subclass is indented under subclass 52. Subject matter wherein a television signal component composed of pulses at rates related to line and field frequencies for synchronizing scanning processes is used to specify portions of the television signal to be edited.

**62 Numerical code:**

This subclass is indented under subclass 61. Subject matter wherein the television signal component includes coded data representing numbers.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

60, for editing using numerical code in a control pulse.

**63 Having erasing head:**

This subclass is indented under subclass 52. Subject matter comprising an erasing transducer having means for deleting portions of the recorded television signal.

**64 Having auxiliary dynamic memory means:**

This subclass is indented under subclass 52. Subject matter wherein edited television is recorded onto a relative movable recording

medium (e.g., film, tape, card, disk) that is distinguished from a first recording medium for storing the previously recorded television signal.

**65 Having time code for addressing signal:**

This subclass is indented under subclass 46. Subject matter wherein video information is recorded on a recording medium along with associated coded data for identifying location of the video information in hours, minutes, and seconds.

SEE OR SEARCH CLASS:

360, Dynamic Magnetic Information Storage or Retrieval, subclasses 13+ for dynamic magnetic record editing in general.

**66 Synchronizing of recording or reproducing devices:**

This subclass is indented under subclass 46. Subject matter comprising means for maintaining a correct time relationship between events which occurred in at least two apparatus for processing television signals for dynamic recording or reproducing of the signals.

SEE OR SEARCH CLASS:

360, Dynamic Magnetic Information Storage or Retrieval, subclass 13 for dynamic magnetic record editing in general.

**67 Long play recording:**

This subclass is indented under subclass 46. Subject matter wherein more information in the television signal is recorded by a reduction of recording medium speed without changing relative head-to-recording medium velocity.

**68 Fast, slow, or stop reproducing:**

This subclass is indented under subclass 46. Subject matter for reproducing the television signal in such a manner that its duration is different from that at the time of recording.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

6, 7, and 8, for fast, slow, or stop reproducing of a color television signal, respectively.

- 69 Track searching:**  
This subclass is indented under subclass 68. Subject matter wherein the television signal is reproduced by randomly accessing a desired track on a recording medium.
- SEE OR SEARCH CLASS:  
369, Dynamic Information Storage or Retrieval, subclasses 30.01 through 30.99 for selective addressing or accessing.
- 70 Disc:**  
This subclass is indented under subclass 69. Subject matter wherein the recording medium has a thin circular shape.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
15, for time correction of a color television signal by regulating a speed of a transducer in relation to a disc.  
82, for a special reproducing apparatus having disc.  
105, for recording of a digital audio signal onto disc.  
106, for recording of an audio signal onto disc.  
125, for black and white television signal recording or reproducing apparatus having disc.
- 71 Synchronization signal modification**  
This subclass is indented under subclass 68. Subject matter comprising means for generating a signal which is added to or substituted for a synchronizing component of the television signal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
12, for synchronization signal modification of a color television signal.  
84, for modification of a synchronization component in a black and white television recording or reproducing apparatus.
- 72 Including head switching means:**  
This subclass is indented under subclass 68. Subject matter including an interrupter activated during fast, slow, or stop reproducing for
- outputting video signal read out by a special reproducing head.
- 73 Interpolation:**  
This subclass is indented under subclass 68. Subject matter including means for performing a mathematical process for estimating portions of the reproduced television signal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
50, for drop-out correction of television signal by interpolation.
- 74 Different azimuth:**  
This subclass is indented under subclass 68. Subject matter including heads arranged in such a manner that angular displacements formed between head gaps and their respective recorded tracks are dissimilar.
- (1) Note. The heads include, for example, reproducing heads, recording and reproducing heads, and main and auxiliary heads.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
23, for reducing crosstalk in a television signal by using different azimuth angle heads.
- 75 Having audio:**  
This subclass is indented under subclass 68. Subject matter including an electrical signal containing frequency in the audible range (15-20,000 hertz).
- 76 Noise reducing circuit:**  
This subclass is indented under subclass 68. Subject matter including means for compensating effect of an unwanted electrical disturbance signal.
- 77 Having static memory:**  
This subclass is indented under subclass 68. Subject matter comprising nonrelative movable storage means for temporarily storing the television signal during the fast, slow, or stop reproducing.

- 78 Locus or track control:**  
This subclass is indented under subclass 68. Subject matter where a path that a reproducing transducer follows relative to a recorded track is controlled.
- 79 Using control signal on the recording medium:**  
This subclass is indented under subclass 78. Subject matter wherein the path a reproducing transducer follows relative to a recorded track is controlled by a signal recorded on the recording medium for that purpose.
- 80 Automatic control of the speed of the medium:**  
This subclass is indented under subclass 68. Subject matter wherein the fast, slow, or stop reproducing is carried out by controlling the speed of a record medium using a feedback signal.
- 81 Tape:**  
This subclass is indented under subclass 68. Subject matter wherein the television signal is reproduced from a non-transparent elongated dynamic recording medium.
- 82 Disc:**  
This subclass is indented under subclass 68. Subject matter wherein the television signal is reproduced from a recording medium having thin circular shape.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
15, for time correction of a color television signal by regulating a speed of a transducer in relation to a disc.  
45, for color television signal recording or reproducing apparatus having disc.  
70, for track accessing in a special reproducer having disc.  
106, for recording of an audio signal onto disc.  
126, for black and white television signal recording or reproducing apparatus having disc.
- 83 Including programmable apparatus:**  
This subclass is indented under subclass 46. Subject matter including means for storing timed commands for executing a future recording or reproducing function.
- SEE OR SEARCH CLASS:  
348, Television, subclasses 731 through 734 for tuning of a receiver and for remote control of a receiver.
- 84 Synchronization signal modification:**  
This subclass is indented under subclass 46. Subject matter comprising means for generating a signal which is added to or substituted for a synchronizing component of the television signal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
12, for synchronization signal modification of a color television signal.  
71, for synchronization signal modification of a special reproduced black and white television signal.
- 85 Time (e.g., phase or frequency) correction:**  
This subclass is indented under subclass 46. Subject matter for correction of a timing error introduced during recording or reproducing.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
13+, for time (e.g., phase or frequency) correction of a color television signal.
- SEE OR SEARCH CLASS:  
348, Television, subclasses 497+ for flutter or jitter correction.  
369, Dynamic Information Storage or Retrieval, subclasses 47.1 through 47.55 and 239+ for time control in general dynamic recording.
- 86 Of relative transducer/record medium speed:**  
This subclass is indented under subclass 85. Subject matter where the time correction is effected by controlling a speed of a transducer in relation to a record medium.

**87 By controlling speed of record medium:**

This subclass is indented under subclass 86. Subject matter wherein the relative speed is controlled by controlling speed of the record medium.

**88 Using recorded reference (e.g., pilot signal):**

This subclass is indented under subclass 85. Subject matter where the time correction is effected by using a signal recorded on the record medium for that purpose.

- (1) Note. The recorded signal is not a standard component (e.g., luminance, chrominance, synchronization signals, color burst) of the television signal.

**89 Using variable delay:**

This subclass is indented under subclass 85. Subject matter having a delay means, the delay time of which is alterable.

**90 Digital technique:**

This subclass is indented under subclass 85. Subject matter wherein a television signal subjected to time base correction is a signal composed of a series or pattern of identical pulse bits characterized solely by their presence or absence.

**91 By controlling read-write operations:**

This subclass is indented under subclass 90. Subject matter wherein the time base correction is carried out by generating write-in clock signal as a function of read-out clock signal.

**92 Simultaneously recording of a plurality of television signals:**

This subclass is indented under subclass 46. Subject matter wherein at least two separated television signals are recorded at the same time.

**93 Signal amplitude level control:**

This subclass is indented under subclass 46. Subject matter comprising means for controlling the instantaneous amplitude level or the envelope level of the television signal during recording or reproducing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 9+, for amplitude level control of a color television signal during recording or reproducing.

SEE OR SEARCH CLASS:

- 330, Amplifiers, appropriate subclasses for amplifiers, per se.  
348, Television, subclasses 613+ for complementary system (e.g., preemphasis-deemphasis) for processing television signal at encoder or transmitter.

**94 Record protection (e.g., anti-copying):**

This subclass is indented under subclass 46. Subject matter comprising means for modifying the television signal for inhibiting it from being recorded or reproduced.

- (1) Note. Means for modifying includes signal or pulse mixed to the television signal.  
(2) Note. This subclass includes systems for disabling the effect of means for inhibiting.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, subclass 60 for dynamic magnetic recording or erasing prevention in general.  
380, Cryptography, subclasses 201 through 204 for cryptographic video copy protection or prevention.  
705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, subclasses 51 through 59 for cryptographic protection of a distributed data file.

**95 Having another signal:**

This subclass is indented under subclass 46. Subject matter wherein at least one auxiliary signal (e.g., code signal, timing signal, s:graphic or picture information data, message data, etc.) in addition to the television signal is processed and recorded.

- (1) Note. The auxiliary signal may be a secondary television signal.



- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 29, for processing and recording an auxiliary signal together with a frequency modulated color television signal.  
 92, for simultaneously recording of a plurality of television signals.
- SEE OR SEARCH CLASS:  
 348, Television, subclasses 461+ for non-pictorial data packet in television format and subclass 473 for television signal including additional information.
- 96 Audio signal:**  
 This subclass is indented under subclass 95. Subject matter wherein the auxiliary signal is an electrical signal, the frequency of which is within the audio range (15-20,000 hertz).
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 29, for recording of a frequency modulated television signal with another signal such as an audio signal.  
 39, for recording a color television signal with audio.
- SEE OR SEARCH CLASS:  
 348, Television, subclass 462 for television signal including audio.
- 97 Selective mode (e.g., mono, stereo, or bilingual):**  
 This subclass is indented under subclass 96. Subject matter including means for designating one of a plurality of different types of inputted audio signals (e.g., mono, stereo, bilingual) for recording or reproducing.
- 98 Multiplexing or demultiplexing:**  
 This subclass is indented under subclass 96. Subject matter wherein the television signal and the audio signal are combined and recorded such that at any instant of time either the television signal or the audio signal is presented at an output channel for recording, or the television signal and the audio signal are separated from a combined multiplexed signal to be outputted at two separated channels for reproducing.
- 99 Plurality of audio channels:**  
 This subclass is indented under subclass 98. Subject matter comprising at least two channels for inputting audio signals to be multiplexed with the television signal; or at least two output channels for outputting audio signals separated from the combined multiplexed signal.
- 100 Fault condition compensation:**  
 This subclass is indented under subclass 96. Subject matter including means for correcting an introduced error.
- (1) Note. The introduced error may be contained in the audio signal or may be caused by the presence of the audio signal.
- 101 Time compressing:**  
 This subclass is indented under subclass 96. Subject matter comprising means for reducing a length of time required for recording of the audio signal while preserving its information content.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 27, for compressing or decompressing of a frequency modulated color television signal.  
 33, for compressing or decompressing of a color television signal.  
 109, for compressing or decompressing of a black and white television signal.
- SEE OR SEARCH CLASS:  
 370, Multiplex Communications, subclass 109 for time compression or expansion.
- 102 Including mixing or adding means:**  
 This subclass is indented under subclass 96. Subject matter comprising means for combining the television signal and the audio signal to provide a composite signal for a unitary recording.

**103 On a different substrate of the recording medium:**

This subclass is indented under subclass 96. Subject matter wherein the audio signal and the television signal are recorded on different layers of a recording medium.

**104 Digital audio signal:**

This subclass is indented under subclass 96. Subject matter wherein the audio signal is provided in a form of a pulse train signal composed of a series or pattern of identical pulse bits characterized solely by their presence or absence.

SEE OR SEARCH THIS CLASS, SUBCLASS:

39, for recording of a color television signal together with an audio signal.

**105 Disc:**

This subclass is indented under subclass 104. Subject matter wherein the digital audio signal is recorded onto a record medium having thin circular shape.

SEE OR SEARCH THIS CLASS, SUBCLASS:

15, for time correction of a color television signal by regulating a speed of a transducer in relation to a disc.  
45, for color television signal recording or reproducing apparatus having disc.  
70, for track accessing in a special reproducer having disc.  
82, for a special reproducing apparatus having disc.  
106, for recording of an audio signal onto disc.  
125, for black and white television signal recording or reproducing apparatus having disc.

**106 Disc:**

This subclass is indented under subclass 96. Subject matter wherein the audio signal is recorded onto a record medium having thin circular shape.

SEE OR SEARCH THIS CLASS, SUBCLASS:

15, for time correction of a color television signal by regulating a speed of a transducer in relation to a disc.  
45, for color television signal recording or reproducing apparatus having disc.  
70, for track accessing in a special reproducer having disc.  
82, for a special reproducing apparatus having disc.  
105, for recording of a digital audio signal onto disc.  
125, for black and white television signal recording or reproducing apparatus having disc.

**107 Including television camera:**

This subclass is indented under subclass 96. Subject matter comprising a television camera having optical-electrical converting means for converting an optical image signal, obtained in a selected recording mode (e.g., still or motion), into an electrical image signal representing the television signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

38, for television camera combined with a generic processing apparatus for recording or reproducing a color television signal.  
117+, for television camera combined with a generic processing apparatus for recording or reproducing a black and white television signal.  
121, for single still or frame recording of a black and white television signal.

SEE OR SEARCH CLASS:

348, Television, subclasses 207+ for television signal processing including camera means for scanning image of the object or scene.  
358, Facsimile and Static Presentation Processing, subclass 479 for video camera scanning document or other static image.  
396, Photography, subclasses 429+ for photographic camera combined with other devices or structures having independent utility or purpose.

**108 Television signal:**

This subclass is indented under subclass 95. Subject matter wherein the auxiliary signal is a secondary television signal.

**109 Compressing in recording or decompressing in reproducing:**

This subclass is indented under subclass 46. Subject matter wherein at least a parameter (bandwidth, data, time, etc.) of the television signal is reduced at the time of writing-in, or increased at the time of reading-out while preserving its information content.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 27, for compressing or decompressing of a frequency modulated color television signal.
- 33, for compressing or decompressing of a color television signal.
- 101, for time compressing of an audio signal.

SEE OR SEARCH CLASS:

- 341, Coded Data Generation or Conversion, appropriate subclasses for code converters which may include bandwidth reduction.
- 348, Television, subclasses 384.1 through 440.1 for bandwidth reduction in an analog television system.
- 370, Multiplex Communications, subclass 7 for multiplex systems with amplitude compression of incoming signal and corresponding expansion, subclass 109 for time compression or expansion in time division multiplexing, and subclass 118 for bandwidth conservation techniques.
- 375, Pulse or Digital Communications, subclasses 240.01 through 240.29 for digital television bandwidth compression system.
- 381, Electrical Audio Signal Processing Systems and Devices, subclasses 29 through 35 for bandwidth or time compression or expansion.
- 382, Image Analysis, subclasses 232+ for image compression or coding.

**110 Line, field, or frame skipping:**

This subclass is indented under subclass 109. Subject matter comprising means for deleting at least one line, field, or frame for every H lines, fields, or frames (H is an integer greater than two) of the television signal at the time of recording.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 5, for line, field, or frame skipping of a color television signal.

**111 Intraframe or interframe:**

This subclass is indented under subclass 109. Subject matter wherein data of television signal is reduced for recording by coding each frame on a frame by frame basis, or by coding difference between video information in successive frames.

SEE OR SEARCH CLASS:

- 382, Image Analysis, subclass 236 for image coding using interframe coding.

**112 Digital compressing:**

This subclass is indented under subclass 109. Subject matter wherein the television signal to be compressed for recording is provided in a form of a pulse train signal composed of a series or pattern of identical pulse bits characterized solely by their presence or absence.

**113 Recorder or reproducer fault condition compensation:**

This subclass is indented under subclass 46. Subject matter including means for correcting an error introduced during recording or reproducing.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 21+, for recorder or reproducer fault condition compensation of color television signal.

SEE OR SEARCH CLASS:

- 348, Television, subclasses 607+ for noise or undesired signal reduction in image signal processing circuit.

**114 Noise reduction:**

This subclass is indented under subclass 113. Subject matter wherein the introduced error includes an unwanted electrical disturbance signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

76, for noise reduction in a special reproducing apparatus for black and white television signal.

**115 Crosstalk:**

This subclass is indented under subclass 114. Subject matter wherein the electrical disturbance signal is noise caused by interference between at least two reproduced channels or two reproduced tracks.

(1) Note. Included are reduction of crosstalk between different tracks or channels, and crosstalk between audio and video portions of the television signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

22+, for crosstalk reduction in color television signal recorder or reproducer.

SEE OR SEARCH CLASS:

348, Television, subclasses 609+ for reduction of crosstalk.

**116 Digital technique:**

This subclass is indented under subclass 113. Subject matter in which the error to be corrected is in a form of a pulse train signal composed of a series or pattern of identical pulse bits characterized solely by their presence or absence.

**117 Including television camera:**

This subclass is indented under subclass 46. Subject matter comprising a television camera having optical-electrical converting means for converting an optical image signal into an electrical image signal representing the television signal.

SEE OR SEARCH THIS CLASS, SUBCLASS:

38, for camera combined with a processing apparatus to record or reproduce a color television signal.

107, for camera combined with a processing apparatus to record or reproduce a black and white television signal together with an audio signal.

121, for single still or frame recording.

SEE OR SEARCH CLASS:

348, Television, subclasses 207+ for television signal processing including camera means for scanning image of the object or scene.

358, Facsimile and Static Presentation Processing, subclass 479 for video camera scanning document or other static image.

396, Photography, subclasses 429+ for photographic camera combined with other devices or structures having independent utility or purpose.

**118 Housing or mounting:**

This subclass is indented under subclass 117. Subject matter comprising means for enclosing or supporting at least a part of the television camera, or for mechanically connecting the camera with the apparatus for treating the television signal.

**119 Synchronizing:**

This subclass is indented under subclass 117. Subject matter comprising means for locking operation of the television camera with that of the apparatus for treating the television signal.

**120 Selective mode (e.g., still or motion):**

This subclass is indented under subclass 117. Subject matter wherein recording operation of the television camera can be switched between different processes to obtain the optical image signal.

**121 Single still or frame recording:**

This subclass is indented under subclass 46. Subject matter wherein the television signal to be recorded is a signal representing information displayed on a total area of one television screen (e.g., 525 horizontal scanning lines for NTSC).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 38, for processing apparatus to record or reproduce a color television signal in combination with a camera.
- 117+, for processing apparatus to record or reproduce a black and white television signal in combination with a camera.

SEE OR SEARCH CLASS:

- 346, Recorders, subclasses 107.1+ for recording of phenomenal information by light or beam.
- 348, Television, subclass 14.14 for a still frame transmission, subclass 24 for selection of one frame out of a series of unrelated images for displaying, and subclasses 207-376 for television signal processing including camera means for scanning image of the object or scene.
- 358, Facsimile and Static Presentation Processing, subclass 479 video camera scanning document or other static image.

## 122 **Channel splitting:**

This subclass is indented under subclass 46. Subject matter comprising means for separating the television signal into signals inputted into two or more paths before recording.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 36, for channel splitting of a color television signal.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, subclasses 22+ for splitting an information signal for recording on plural distinct tracks or reproducing such signal.

## 123 **High definition television recording or reproducing:**

This subclass is indented under subclass 46. Subject matter comprising means for recording or reproducing a high resolution or wide band television signal having more scanning lines than that of a standard NTSC television signal.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 37, for recording or reproducing of a high definition color television signal.

SEE OR SEARCH CLASS:

- 348, Television, subclasses 426+ for bandwidth reduction of high definition television signal.

## 124 **Digital recording or reproducing:**

This subclass is indented under subclass 46. Subject matter wherein the television signal is recorded or reproduced in a form of a pulse train signal composed of a series or pattern of identical pulse bits characterized solely by their presence or absence.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 40, for digital recording or reproducing of a color television signal.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, subclass 32 and 39+ for converting an analog signal to digital form for recording, reproducing, and reconvertng, and for general processing of a digital signal, respectively.

## 125 **Using disc:**

This subclass is indented under subclass 46. Subject matter wherein the television signal is recorded onto a record medium having a thin circular shape.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 15, for time correction of a color television signal by regulating a speed of a transducer in relation to a disc.
- 45, for generic recording or reproducing of a color television signal using disc.
- 70, for track accessing in a special reproducer having disc.
- 82, for a special reproducing apparatus having disc.
- 105, for recording of a digital audio signal onto disc.
- 106, for recording of an audio signal onto disc.

## SEE OR SEARCH CLASS:

360, Dynamic Magnetic Information Storage or Retrieval, subclasses 86, 97.01+, and 135 for film, disc, card scanning, or related subject matter.

**126 Optical:**

This subclass is indented under subclass 125. Subject matter wherein the disc is responsive to a light beam (e.g., laser) for recording or reproducing of the television signal.

**127 Onto thermoplastic record:**

This subclass is indented under subclass 46. Subject matter including the use of a plastic recording medium, onto which an electrostatic charge pattern corresponding to the television signal to be recorded is placed, then the plastic is heated so that it is deformed by electrostatic and surface tension forces in proportion to the charge laid down, the plastic is then allowed to cool, forming a recording of the television signal.

## SEE OR SEARCH CLASS:

347, Incremental Printing of Symbolic Information, subclass 113 for electrostatic marking wherein a latent image is made visible by applying heat to cause plastic deformation of a charged medium.

365, Static Information Storage and Retrieval, subclass 47 for analog thermoplastic storage element and subclass 126 for information masking wherein radiation beam is altered as a function of a thermoplastic memory material.

**128 Using light or beam:**

This subclass is indented under subclass 46. Subject matter wherein the television signal is reproduced from or recorded onto a dynamic photographic record medium (e.g., film).

- (1) Note. This subclass includes apparatus for recording video images on a film by scanning a light or beam across the film or by creating a hologram on the film.

## SEE OR SEARCH THIS CLASS, SUB-CLASS:

42, for the use of light or beam to record color television signal.

## SEE OR SEARCH CLASS:

346, Recorders, subclasses 107.1+ for optical recording of phenomenal information.

347, Incremental Printing of Symbolic Information, subclasses 224+ for radiation marking.

348, Television, subclasses 97+ for motion picture film scanning.

352, Optics: Motion Pictures, appropriate subclasses for photographic motion picture recording in general.

369, Dynamic Information Storage or Retrieval, subclasses 100+ for dynamic photographic information storage or retrieval in general.

**129 Recording at different frame rate:**

This subclass is indented under subclass 128. Subject matter wherein the television signal, occurring at 30 frames per second, is subjected to a 3:2 pull down technique such that it can be recorded on film moved at a rate of 24 frames per second.

**130 Cathode-ray tube:**

This subclass is indented under subclass 128. Subject matter wherein the television signal is recorded on the record medium using a beam formed by a stream of electrons emitted from a cathode of an evacuated envelope.

## SEE OR SEARCH CLASS:

313, Electric Lamp and Discharge Devices, subclasses 364+ for cathode-ray tube, per se.

315, Electric Lamp and Discharge Devices: Systems, subclasses 1+ for cathode-ray tube circuits, per se.

324, Electricity: Measuring and Testing, subclasses 121+ for measuring, testing, or sensing using a cathode-ray tube.

345, Computer Graphics Processing and Selective Visual Display Systems, subclasses 10+ for CRT display.

- 347, Incremental Printing of Symbolic Information, subclasses 226+ for radiation marking using cathode-ray tube.
- 348, Television, subclasses 805+ for CRT video display.
- 355, Photocopying, subclass 20 for projection printing and copying cameras with a cathode ray tube as a light source.
- 358, Facsimile and Static Presentation Processing, subclass 485 for facsimile system having cathode-ray tube scanning.
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, subclasses 23+ for process of producing cathode-ray tube.

**131    Converting one television format to another:**

This subclass is indented under subclass 46. Subject matter comprising means for changing a television signal transmitted or recorded at a first standard scanning frequency to a television signal received or reproduced at a second standard scanning frequency without loss of information.

END